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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/937,562	10/15/2001	Shigeru Kitsutaka	110712	2254

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EXAMINER	
LEIVA, FRANK M	

ART UNIT	PAPER NUMBER
3714	

MAIL DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	09/937,562	KITSUTAKA, SHIGERU	
	Examiner	Art Unit	
	FRANK M. LEIVA	3714	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 December 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-33* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-33* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date. _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Acknowledgements

1. The examiner acknowledges claim amendments filed 30 November 2007, including independent amended claims 1, 8, 12, 15, 19 and 25, and canceled claims 3, 6, 13-14, 16, 20-21, 23 and 27. Remaining claims still pending 1-2, 4-5, 7-12, 15, 17-19, 22, and 24-26.

Response to Arguments

2. Applicant's arguments filed 17 December 2007 have been fully considered but they are not persuasive. The examiner stands by and re affirms for the record that truncating a binary number constitutes a transformation of the total value of the bit stream, and that bits obtained depending on a focus point of a virtual camera is a very general statement because all pixels bit information are relative and dependant to the camera angel in creating the virtual image. Amendments have been added to the current action but no new art is required.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Baldwin (USPN 5,835,096) and further in view of Smith et al. (USPN 6,599,194 B1).

5. **Regarding claims 1, 12, 23 and 29**; Baldwin discloses:

A game system; which executes a computer program to generate an electronic image to provide more realistic view on a display screen, (Abstract).

Means which transforms a depth value of each pixel of an original image into a second depth value formed of lower bits I to J which are positioned lower than the most significant bit of the depth value, (Col. 24:37- Col.25:8), transformation of Depth value by shifting bit toward lower significant value by eliminating unused higher significant value bits, and coding the new format.

Means which sets an alpha value of each pixel to a value corresponding to the second depth value, (Col. 24:37- Col.25:8), where a new depth value is created in a different format.

Means which generates the electronic image based on the set alpha value, wherein the bits I to J are an intermediate set of bits, obtained depending on a focus position of a virtual camera, and are below the uppermost bit and above the lowermost bit, (Col. 29:18-43), wherein images are generated using all portions of the alpha channel, and its most significant bit being "m" in the frame buffer, and all image data is composed in accordance to the focal point of the virtual camera as seen in the mapping image section according to camera coordinates on figure 1A.

6. **Claim 2, 13, and 24**, Baldwin discloses a system wherein the original image is blended with a defocused image of the original image based on the alpha value set for each pixel. The process of alpha blending distorts the transparency of an original image in order to allow for the two objects to appear blended together (*see col. 53: ln 65-col. 54: ln 45*).

7. **Claim 3, 14, and 25**, Baldwin discloses a process wherein the defocused image of the original image is generated by disbursing the original image into a texture buffer and shifting the texture buffer coordinates of a virtual objects disbursed in a similar and then mapping the two objects together through texel interpolation (*see col. 53: ln 1-60, col. 53: ln 65-col. 54: ln 11*).

8. **Claim 4, 15, and 26;** Baldwin discloses a method of alpha blending wherein the second depth value is clamped into a give value depending on a bit value contained in the pixel information in the buffers (*see col. 39: ln 64-col. 40: ln 67*).

9. **Claim 5, 16, and 27;** Baldwin discloses the use of buffers and lookup tables to store the index numbers of depth values which are used for index color texture-mapping and the depth value is retrieved to be transformed into a second depth value by performing index color texture-mapping on a virtual object by using the lookup table (*see col. 51: ln 60-col. 52: ln 67*).

10. Claim 6, 17, and 28; Baldwin discloses a system of combining two images to maintain texture and realism uses bit information stored in the buffers to retrieve the depth values (i.e.: Z-buffers) that are set in the original image (*see col. 3: ln 23-31, col. 6: ln 65-col. 7: ln 22*). These are then compared and interpolated to create a third and fourth depth value (i.e.: the transformed depth values of the original two images) and used to determine the new second depth value (*see col. 19: ln 1-40, col. 45: ln 1-45, col. 48: ln 29-col. 50: ln 33, col. 51: ln 60-col. 52: ln 40*).

11. **In reference to claims 7 and 18**, Baldwin discloses an image processing system, which generates an image comprising to be used to provide enhanced graphics capabilities. The processing system has been implemented to allow for animated images, which utilizes concepts such as textural interpolation and alpha blending (*see col. 29: ln 10-24, col. 29: ln 31-43, col. 39: ln 40-60, col. 53: ln 60-col. 54: ln 11*). Alpha blending is a well-known and common implementation in the MMX instruction set under the x86 architecture that utilizes a portion of a pixel's stored data to control transparency. As a result it forms a mask effect where an image may be overlaid upon another so that typical objects may appear to blend into the background of screen giving the appearance that they appear as one image. This is a basic concept that allows for modern day 3-D rendering of images and graphics. The implementation of this method includes using several buffers, commonly known as lookup buffers, that contain the information of the two

images containing the index color texture-mapping information so that the two may be observed and compared by the processor in order to properly blend the two images together (*see col. 6: ln 65-col. 7: ln 22, col. 53: ln 30-64*). This is discussed in Baldwin where a means which sets bits in a given image information as an index number in a first lookup table for index color texture-mapping is set up (*see col. 19: ln 1-15, col. 23: ln 40-60*). At this time the first lookup table from a source image or object to transform the image information into a third a destination buffer (i.e.: third image). Additionally the same process is done on the 2nd image through a same image that will be overlaid on top of the previous image in a destination buffer (i.e.: fourth image) in order to form a new buffer that contained the third and fourth information to be displayed on the screen (*see col. 29: ln 5-col. 31: ln 5*). This information is transferred in the traditionally in the form of 32-bit words (24 bits for color information (RGB) and another 8 for the alpha level). and for the part where I-J bits are formed depending on the focal point of the virtual camera; all image data is composed in accordance to the focal point of the virtual camera as seen in the mapping image section according to camera coordinates on figure 1A.

12. **In reference to claims 8-11, 19-22, and 30-33**, Baldwin discloses the creation of two overlapping images through the use of alpha blending as described above; the ability for a virtual object that is a polygon (essential for 3-D texturization in the computer graphics art) having a size equal to a size of a display screen (*see FIGS. 1-3, col. 7: ln 8-22, col. 25: ln 50-col. 26: ln 5*); and a game system wherein the virtual object is a polygon having a size equal to a size of a block obtained by dividing a display screen into blocks. Display screens are inherently divided into blocks as screens are made up of standard pixels in order to create the object that is to appear on the screen.

13. **In regards to claims 1, 7, 12, 18, and 23**, Baldwin lacks in disclosing the use of his system with a game system. Although he does implement it on a computer with structural means which are analogous to the game system consoles.

14. **In regards to claims 1, 12, and 23**, Smith et al. discloses a method of implementing alpha blending using a game system, through the overlaying of a TV signal on a video game image (*see col. 15: ln 10-20, col. 16: ln 20-34)*. It would therefore be obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Baldwin with Smith in order to implement the teachings of Baldwin into a system such as Smith's in order to reduce the amount of data to copy when a window is modified increasing speed.

15. **In regards to claims 7 and 18**, Smith et al. discloses the use of alpha blending to be implemented on a video game system. Smith teaches the use alpha in order to blend the video game with a picture-in-picture capability so that a TV signal maybe overlaid on the display screen (*see col. 15: ln 10-20, col. 16: ln 20-34*). One would be motivated to take the teachings of Smith one step farther and implement the additional feature of alpha blending into a video game program in order to create a more realistic animated graphical experience for the user, but the benefits of alpha (transparency) values are well known in the art and necessary not only to create the overlays, but to texturize the 3-D picture in 2-D graphics generation. Therefore it would be obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Baldwin with Smith in order to have a game system that implemented the use of the alpha-blending concept.

Conclusion

16. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action.

In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to FRANK M. LEIVA whose telephone number is (571)272-2460. The examiner can normally be reached on M-Th 9:30am - 5:pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert E. Pezzuto can be reached on (571) 272-6996. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Robert E Pezzuto/
Supervisory Patent Examiner, Art Unit 3714

FML 07/10/2008